CLAIMS

What is claimed is:

1. A phosphor comprising:

a perovskite structure; and

samarium (Sm),

wherein said perovskite structure comprises $MTiO_3 : (A, B)$, where M is an alkali earth metal, A is an element selected from the group consisting of cerium (Ce), praseodymium (Pr), europium (Eu), terbium (Tb), and thulium (Tm), and B is a Group IIIA element of the periodic table.

2. The phosphor of claim 1, wherein the alkali earth metal is an element selected from the group consisting of magnesium (Mg), strontium (Sr), calcium (Ca), and barium (Ba).

3. The phosphor of claim 1, wherein the element A is added in an amount of 0.05-5 mol% based on 1 mole of the Ti.

4. The phosphor of claim 1, wherein the Group IIIA element is an element selected from the group consisting of aluminum (Al), gallium (Ga), indium (In), and thallium (Tl).

5. The phosphor of claim 1, wherein the Group IIIA element is added in an amount of 0.05-80 mol% based on 1 mol of the Ti.

6. The phosphor of claim 1, wherein the amount of said Sm is in a range of 0.0001-0.05 mol% based on 1 mol of the Ti.

7. The phosphor of claim 1, wherein an amount of said Sm is such that a luminescence of the phosphor at 1000 hours of usage is at least 40% of an initial luminescence.

8. The phosphor of claim 7, wherein the amount is such that the luminescence at 1000 hours of usage is at least 70% of the initial luminescence.

9. The phosphor of claim 1, wherein an amount of said Sm is such that an initial luminescence is at least 65 Cd/m^2.

10. The phosphor of claim 7, wherein the amount is such that the initial luminescence is at least 65 Cd/m^2.

11. The phosphor of claim 7, wherein the amount is such that a luminescence at 600 hours of usage is at least 60% of the initial luminescence.

12. A phosphor comprising:

a perovskite structure; and

samarium (Sm),

wherein an amount of said Sm is such that a luminescence of the phosphor at 1000 hours of usage is at least 40% of an initial luminescence.

13. The phosphor of claim 12, wherein the amount is such that the luminescence at 1000 hours of usage is at least 70% of the initial luminescence.

14. The phosphor of claim 12, wherein the amount is such that the initial luminescence is at least 65 Cd/m^2.

15. The phosphor of claim 13, wherein the amount is such that the initial luminescence is at least 65 Cd/m^2.

16. The phosphor of claim 12, wherein the amount is such that a luminescence at 600 hours of usage is at least 60% of the initial luminescence.

17. The phosphor of claim 12, wherein said perovskite structure comprises $MTiO_3 : (A, B)$, where M is an alkali earth metal, A is an element selected from the group consisting of cerium (Ce), praseodymium (Pr), europium (Eu), terbium (Tb), and thulium (Tm), and B is a Group IIIA element of the periodic table.

18. The phosphor of claim 17, wherein the amount of said Sm is at least 0.0001 mol% based on 1 mol of the Ti.

19. The phosphor of claim 18, wherein the amount of said Sm is less than .05 based on 1 mol of the Ti.

20. The phosphor of claim 17, wherein the amount of said Sm is roughly at or between .002 and .02 mol% based on 1 mol of the Ti.

21. A fluorescent display device comprising the phosphor according to claim 1.

22. The fluorescent display device of claim 21, wherein the fluorescent display device is one of a field emission display and a vacuum fluorescent display.